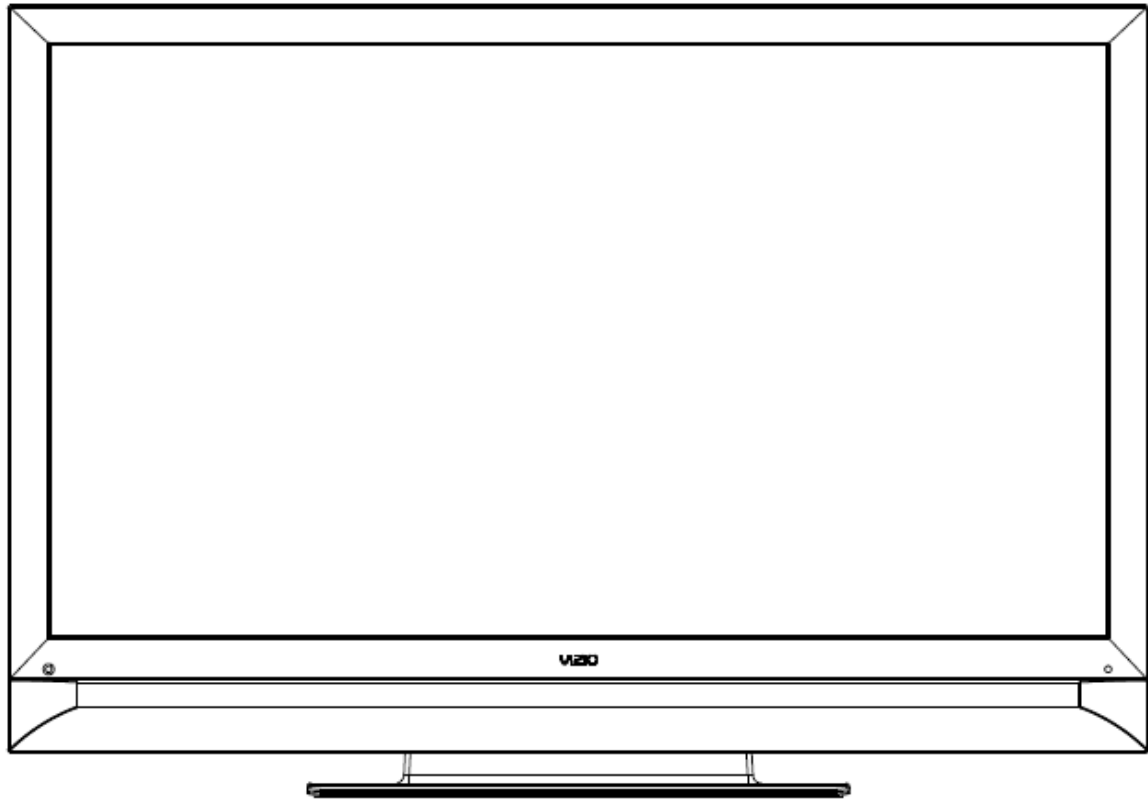


Service Manual



Model #: LCD TV Monitor 55"
VF550XVT1A
(LGD_LC550WUD-SBA1)

V, Inc

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Top Confidential

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Appendix

1. Main Board Circuit Diagram
2. Main Board PCB Layout
3. Assembly Explosion Drawing

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FCC INFORMATION

This equipment has been tested and found to comply with the limits of a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that the interference will not occur in a particular installation. If this equipment does cause unacceptable interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures -- reorient or relocate the receiving antenna; increase the separation between equipment and receiver; or connect the into an outlet on a circuit different from that to which the receiver is connected.

FCC WARNING

To assure continued FCC compliance, the user must use a grounded power supply cord and the provided shielded video interface cable with bonded ferrite cores. Also, any unauthorized changes or modifications to Amtrak products will void the user's authority to operate this device. Thus VINC Will not be held responsible for the product and its safety.

CE CERTIFICATION

This device complies with the requirements of the EEC directive 89/336/EEC with regard to "Electromagnetic compatibility."

SAFETY CAUTION

Use a power cable that is properly grounded. Always use the AC cords as follows – USA (UL); Canada (CSA); Germany (VDE); Switzerland (SEV); Britain (BASEC/BS); Japan (Electric Appliance Control Act); or an AC cord that meets the local safety standards.

Chapter 1 Features

1. Built in TV channel selector for TV viewing.
2. Simultaneous display of PC and TV images.
3. Connectable to PC's analog RGB port.
4. Built in S-video, HDTV, composite video, HDMI and TV out.
5. Built in auto adjust function for automatic adjacent of screen display.
6. High quality 1920X1080 pixel by pixel display.
7. Smoothing function enables display of smooth texts and graphics even if image with resolution lower than 1920X1080 is magnified.
8. Advanced video functions for personal favor.
9. Picture In Picture (PIP) function to show TV or VCR images.
10. Power saving to reduce consumption power too less than 0.5W.
11. On Screen Display: user can define display mode (i.e. color, brightness, contrast, sharpness, backlight),sound setting, PIP, TV channel program, aspect and gamma or reset all setting.

Chapter 2 Specification

1. TFT-LCD CHARACTERISTICS

Model Name: LGD LC550WUD-SBA1 (Vendor: LG. Philips LCD Co., Ltd)
Display Size: 54.64 inches (1387.80mm) diagonal
Outline Dimension: 1286.0 mm (H) x 745.0 mm (V) x 60.0 mm (D) (Typ.)
Pixel Pitch: 0.630mm x 0.630mm x RGB
Pixel Format: 1920 horiz. By 1080 vert. Pixels RGB strip arrangement
Display Operating Mode: Transmissive mode, normally Black
Surface Treatment :Hard Coating (3H), Anti-glare treatment of the front polarizer (Haze 10%).

2. TFT-LCD OPTICAL CHARACTERISTICS

Contrast ratio: 1400(Typ) _ LGD LC550WUD-SBA1
Surface Luminance, White: 500 cd/m² (Typ)
Luminance Variation, $\delta = 1.3$ (Max)
Response Time =8ms (Max=12ms)
Viewing Angle (CR>10)
Left: 89° (min).
Right: 89° (min).
Top: 89° (min).
Bottom: 89° (min).

3. Input Connectors

1x Co-axial RF (ATSC/QAM/NTSC)
5x HDMI^{TM**} with HDCP (1 with Stereo Audio RCA)
2x Component YPbPr plus Stereo Audio
1x RGB PC plus Stereo Audio
1x S-Video plus Stereo Audio (shared with AV1)
2x Composite Video plus Stereo Audio (AV1 & AV2)
1x USB FW Update

4. POWER SUPPLY

Input Voltage Level: 100~240 Vac, 50/ 60 Hz
Power Consumption: 385W MAX Power OFF: to less than 0.5W MAX

5. Speaker

Built in Speakers: 15W X 2 , 2 way,

6. ENVIRONMENT

Operating Temperature: 0c~35c (Ambient)

Operating Humidity: 20%~80% RH (No condensation)

Non-Operating : 0~40,000 ft

7. DIMENSIONS (Physical dimension)

Dimensions with stand : 1307.5mm(W) x 912.5mm(H) x 342.5mm(D)

Dimension without stand : 1307.5mm(W) x 860.8mm(H) x 125.8mm(D)

8. WEIGHT (Physical weight)

a.Net: 34.0 ±1.0 kg (without base)

40.0 ±1.0 kg (with base)

b.Gross: 48.0 ±1.0 kg

Precaution

Please pay attention to the followings when you use this TFT LCD module.

1. OPERATING PRECAUTIONS

- (1). The spike noise causes the mis-operation of circuits. It should be lower than following voltage :

$V=\pm 200\text{mV}$ (Over and under shoot voltage)

- (2). Response time depends on the temperature .(In lower temperature, it becomes longer.)
- (3). Brightness depends on the temperature. (In lower temperature, it becomes lower.) And in lower temperature, response time (required time that brightness is stable after turned on)becomes longer

Be careful for condensation at sudden temperature hange .Condensation makes damage to polarizer or electrical contacted parts. And after fading condensation, smear or spot will occur.

-
- (4). When fixed patterns are displayed for a long time, remnant image is likely to occur.
 - (5). Module has high frequency circuits. Sufficient suppression to the electromagnetic interference shall be done by system manufacturers. Grounding and shielding methods may be important to minimized the interference.
 - (6). Please do not give any mechanical and/or acoustical impact to LCM. Otherwise, LCM can't be operated its full characteristics perfectly.
 - (7). A screw which is fastened up the steels should be a machine screw. (if not, it can causes conductive particles and deal LCM a fatal blow)
 - (8). Please do not set LCD on its edge.
 - (9). It is recommended to avoid the signal cable and conductive material over the inverter transformer for it can cause the abnormal display and temperature rising.
 - (10). Partial darkness may happen during 3~5 minutes when LCM is operated initially in condition that luminance is under 40% at low temperature (under 5°C). This phenomenon which disappears naturally after 3~5 minutes is not a problem about reliability but LCD characteristic

2. HANDLING PRECAUTIONS FOR PROTECTION FILM

- (1). The protection film is attached to the bezel with a small masking tape. When the protection film is peeled off, static electricity is generated between the film and polarizer. This should be peeled off slowly and carefully by people who are electrically grounded and with well ion-blown equipment or in such a condition, etc.
- (2). When the module with protection film attached is stored for a long time, sometimes there remains a very small amount of glue still on the bezel after the protection film is peeled off.
- (3). You can remove the glue easily. When the glue remains on the bezel surface or its vestige is recognized, please wipe them off with absorbent cotton waste or other soft material like chamois soaked with normal hexane.

Chapter 3 On Screen Display

On Screen Display (OSD) is a friendly interface providing the function adjusting in our system. Customers could operate it only by few buttons. There is the introduction of the OSD.

Main unit button

MENU	OK
CH ▲	↑
CH ▼	↓
VOL +	←
VOL -	→
Input	

[MENU]

Operation Menu

<u>PICTURE</u>	
1-0	Picture Mode(Custom, Standard, Movie, Game, Vivid, Football, Golf, Basketball, Baseball)
1-1	Backlight(0~100)
1-2	Brightness(0~100)
1-3	Contrast(0~100)
1-4	Color(0~100)
1-5	Tint(-32~+32)
1-6	Sharpness(0~7)
1-7	Advanced Video
1-7-1	Noise Reduction(Off, Low, Medium, Strong)
1-7-2	Color Enhancement(Off, Normal, Rich Color, Green/Flesh, Green/Blue)
1-7-3	Advanced Adaptive Luma (Off, Low, Medium, Strong, Extend)
1-7-4	Enhanced Contrast Ratio(Off, On)
1-7-5	Backlight Control(Off, Mega DCR, OPC)
1-7-6	Color Temperature
1-7-6-1	Color Temperature(Cool, Computer, Normal, Custom)
1-7-6-2	Red(0~255)
1-7-6-3	Green(0~255)
1-7-6-4	Blue(0~255)

<u>PICTURE</u>	
1-7-7	Smooth Motion
1-7-7-1	Smooth Motion Effect(Off/Low/Middle/High)
1-7-7-2	Real Cinema Mode(Off/Precision/Smooth)
1-7-7-3	Smooth Motion Demo
1-8	Reset Picture Mode
1-1	Auto Adjust
1-2	Backlight(0~100)
1-3	Brightness(0~100)
1-4	Contrast(0~100)
1-5	Color Temperature
1-5-1	Color Temperature(6500, 9300, Custom)
1-5-2	Red(0~255)
1-5-3	Green(0~255)
1-5-4	Blue(0~255)
1-6	H-Size(0~255)
1-7	H-Position(0~100)
1-8	V-Position(0~100)
1-9	Fine Tune(0~31)

<u>AUDIO</u>	
2-0	Audio Mode(Flat, Rock, Pop, Classic, Jazz)
2-1	Equalizer
2-1-1	120Hz
2-1-2	500Hz
2-1-3	1.5KHz
2-1-4	5KHz
2-1-5	10KHz
2-2	Balance(-50~+50)
2-3	SRS TSHD(On/Off)
2-4	SRS TruVolume(On/Off)
2-5	Digital Audio Out(Off, Dolby Digital, PCM)
2-6	Speakers(On/Off)
2-7	Analog Audio Out(Fixed, Variable)
2-8	Lip Sync(0~5)
2-9	Reset Audio Mode

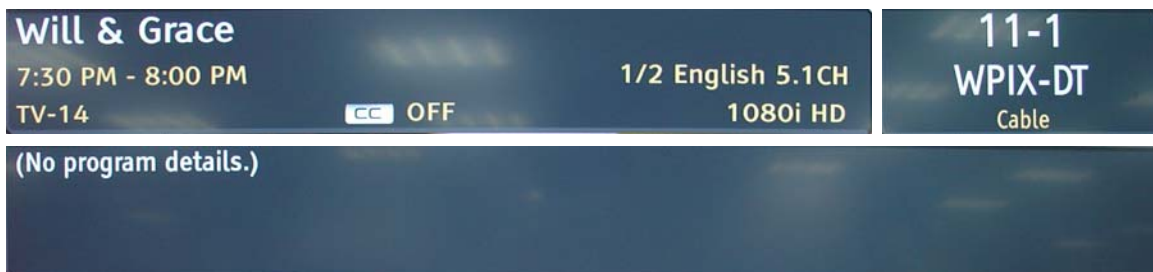
<u>CHANNEL</u>	
3-1	Tuner Mode(Cable, Antenna)
3-2	Auto Search
3-3	Partial Channel Search
3-3-1	Scan Mode (Analog, Digital, Analog/ Digital)
3-3-2	From Channel (1~135)
3-3-3	To Channel (1~135)
3-4	Skip Channel
3-5	MTS(ATV : Mono/Stereo/Sap : DTV : Language1/Language2/Language3)
3-6	Time Zone(Eastern, Indiana, Central, Mountain, Arizona, Newfoundland, Pacific, Alaska, Hawaii, Atlantic)
3-7	Daylight Saving(On, Off)
<u>SETUP</u>	
4-1	Language(English, Francais, Espanol)
4-2	PIP
4-2-1	PIP Mode (Off, PIP, POP)
4-2-2	PIP Source(TV,...)
4-2-3	PIP Position(TL,..., BR)
4-2-4	PIP Size(Small, Medium, Large)
4-2-5	Audio Source (Main or PIP)
4-3	Sleep Timer(Off, 30Minutes, 60Minutes, 90Minutes, 120Minutes)
4-4	Wide(DTV : Wide, Zoom, Stretch : Others : Wide, Zoom, Panoramic, Normal)
4-5	Input Naming
4-6	CC
4-6-1	CC (Off, CC1, CC2, CC3, CC4)
4-6-2	Digital CC Style
4-6-3-1	Caption Style(AS BROADCASTER, CUSTOM)
4-6-3-2	Font Size(Small, Medium, Large)
4-6-3-3	Font Color(Black, White, Green, Blue, Red, Cyan, Yellow, Magenta)
4-6-3-4	Font Opacity(Solid, Translucent, Transparent)
4-6-3-5	Background Color(Black, White, Green, Blue, Red, Cyan, Yellow, Magenta)
4-6-3-6	Background Opacity(Solid, Translucent, Transparent)
4-6-3-7	Window Color(Black, White, Green, Blue, Red, Cyan, Yellow, Megenta)
4-6-3-8	Window Opacity(Solid, Translucent, Transparent)
4-7	H/V Position

<u>SETUP</u>	
4-7-1	H-Position (0~64)
4-7-2	V-Position (0~32)
4-7-3	H-Size(0~100)
4-7-4	V-Size(0~100)
4-8	Parental
4-8-1	Rating Enable(On, Off)
4-8-2	Channel Block
4-8-3	US TV Rating
4-8-3-1	TV-Y (All)
4-8-3-2	TV-Y7 (All, FV)
4-8-3-3	TV-G (All)
4-8-3-4	TV-PG (All, D, L, S, V)
4-8-3-5	TV-14 (All, D, L, S, V)
4-8-3-6	TV-MA (All, L, S, V)
4-8-4	US Movie Rating
4-8-4-1	G
4-8-4-2	PG
4-8-4-3	PG-13
4-8-4-4	R
4-8-4-5	NC-17
4-8-4-6	X
4-8-5	Canadian English Rating
4-8-5-1	C
4-8-5-2	C8+
4-8-5-3	G
4-8-5-4	PG
4-8-5-5	14+
4-8-5-6	18+
4-8-6	Canadian French Rating
4-8-6-1	G
4-8-6-2	8 ans+
4-8-6-3	13 ans+
4-8-6-4	16 ans+
4-8-6-5	18 ans+
4-8-7	DTV Rating

<u>SETUP</u>	
4-8-8	Block Unrated TV (Yes/No)
4-8-9	Access Code Edit
4-8-9-1	New
4-8-9-2	Confirm
4-10	System Reset

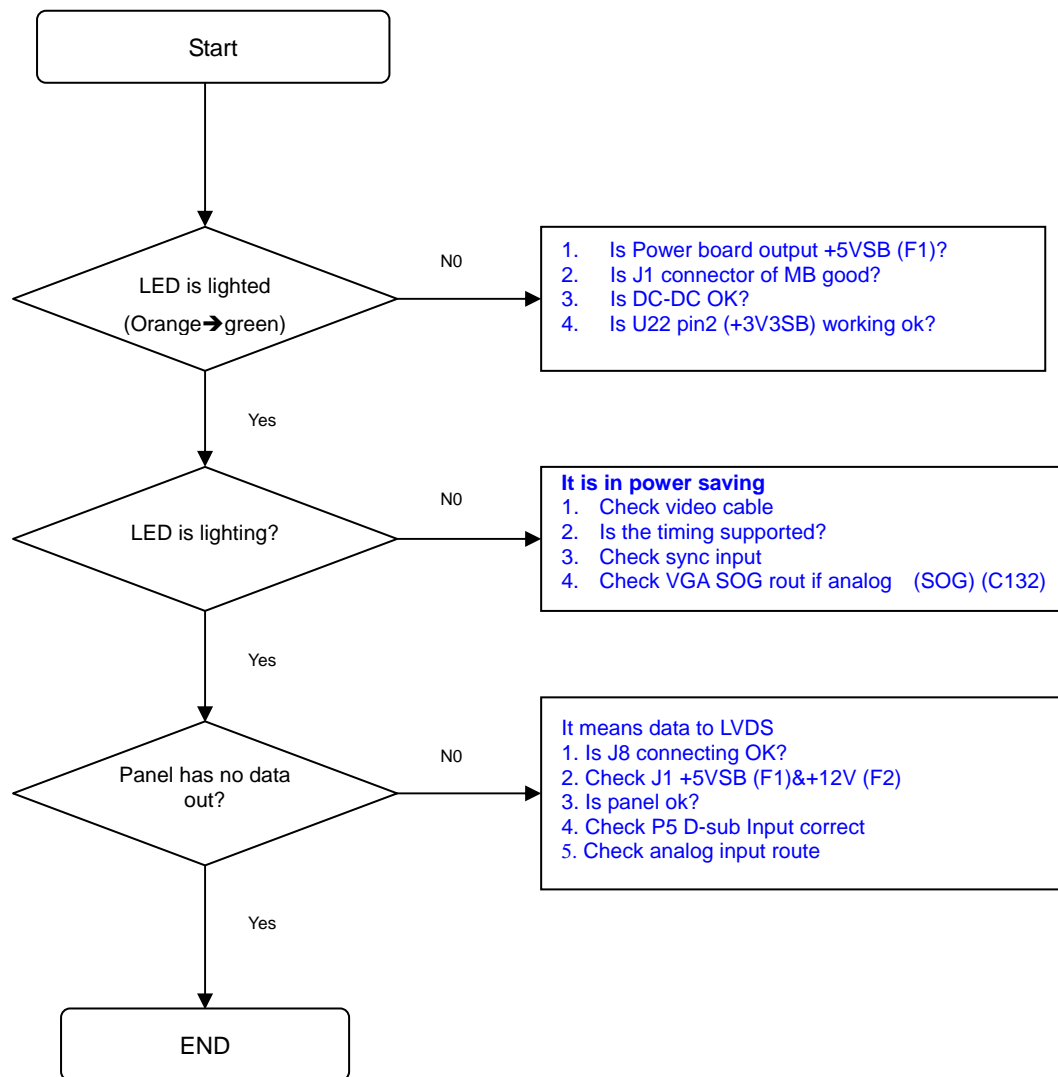
[INFO]

“INFO” button could show an information bar which displays the information about the input signal on our LCD TV.

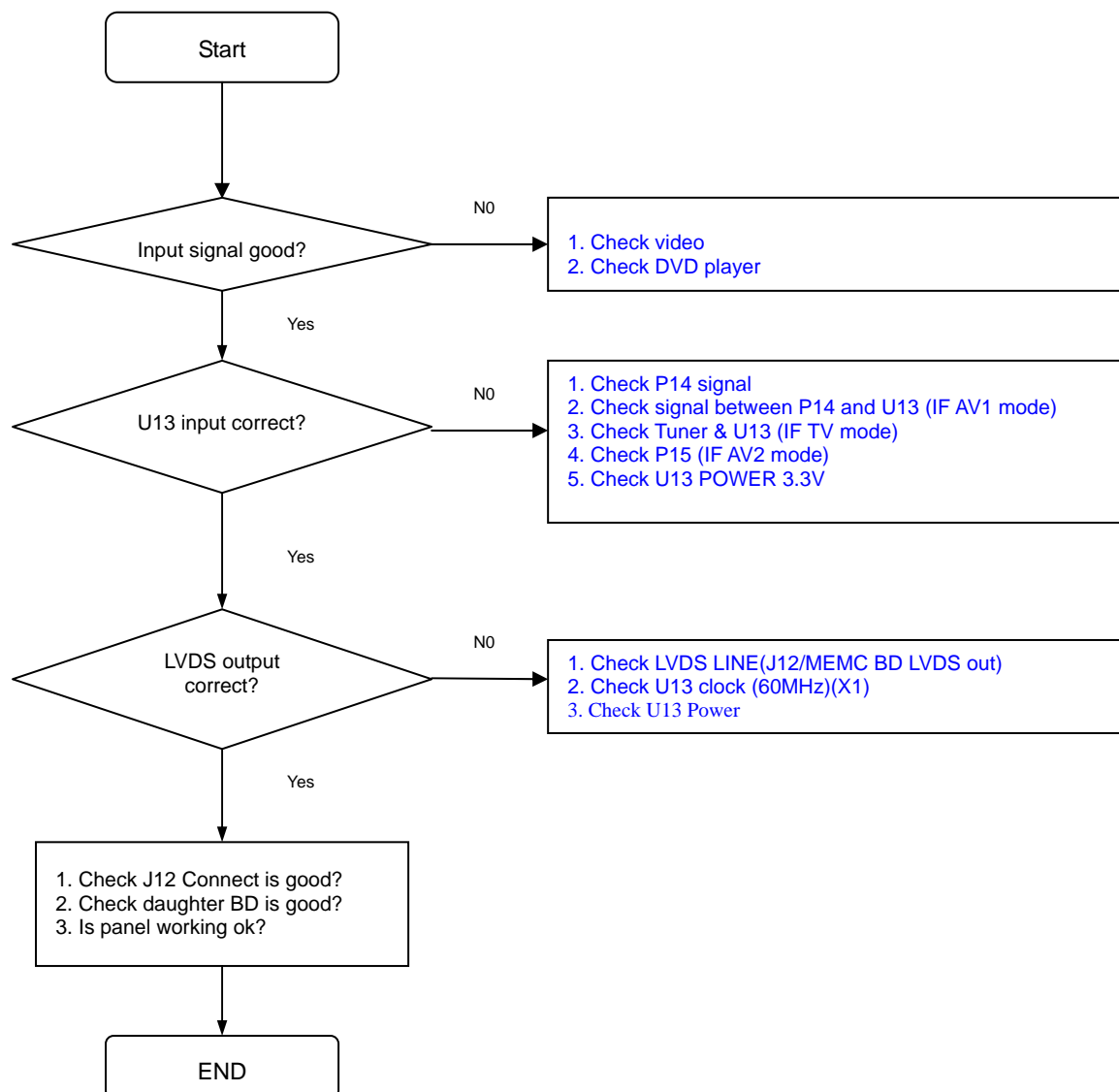


Chapter 9 Trouble shooting

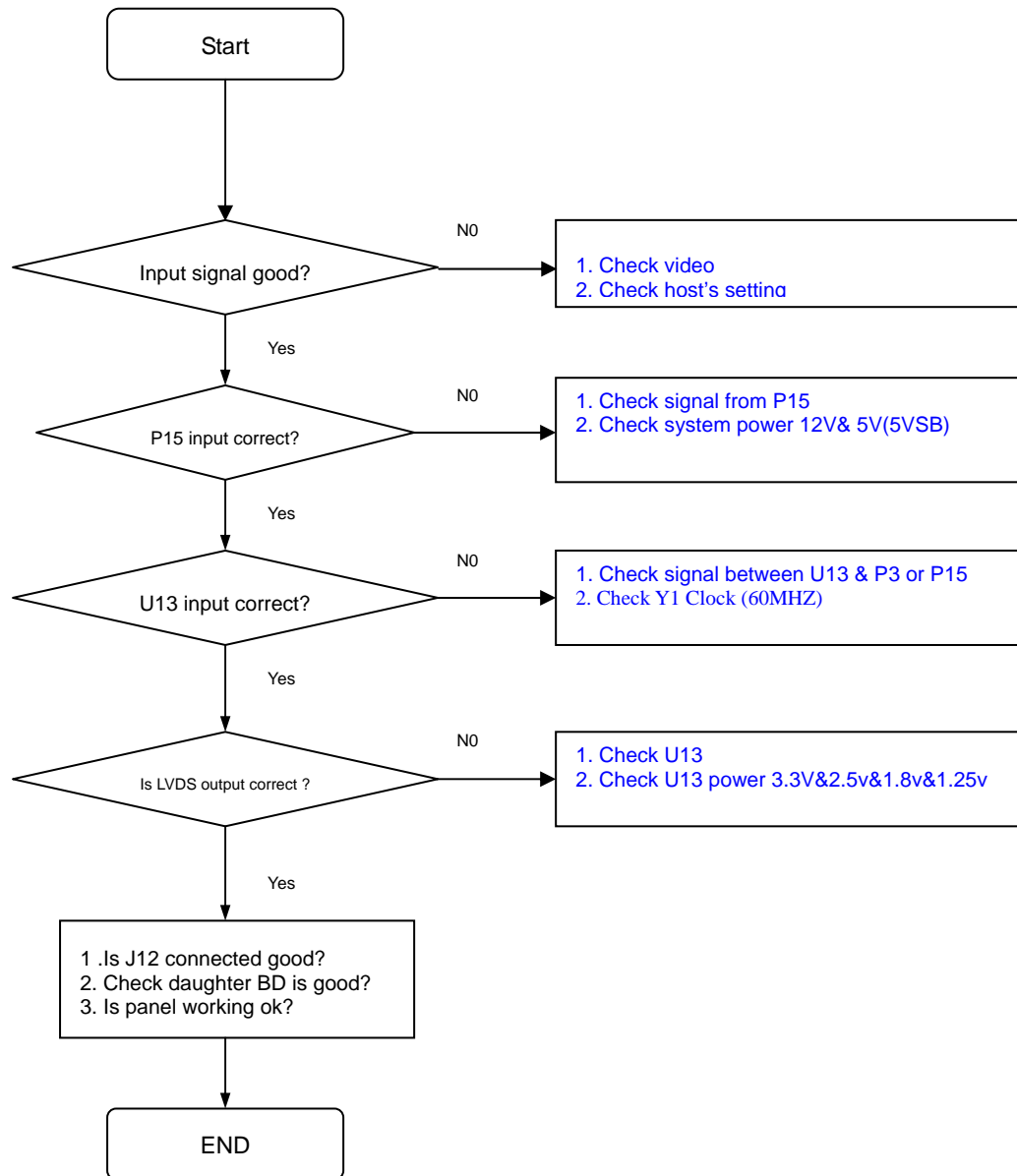
MONITOR DISPLAY NOTHING (PC MODE)



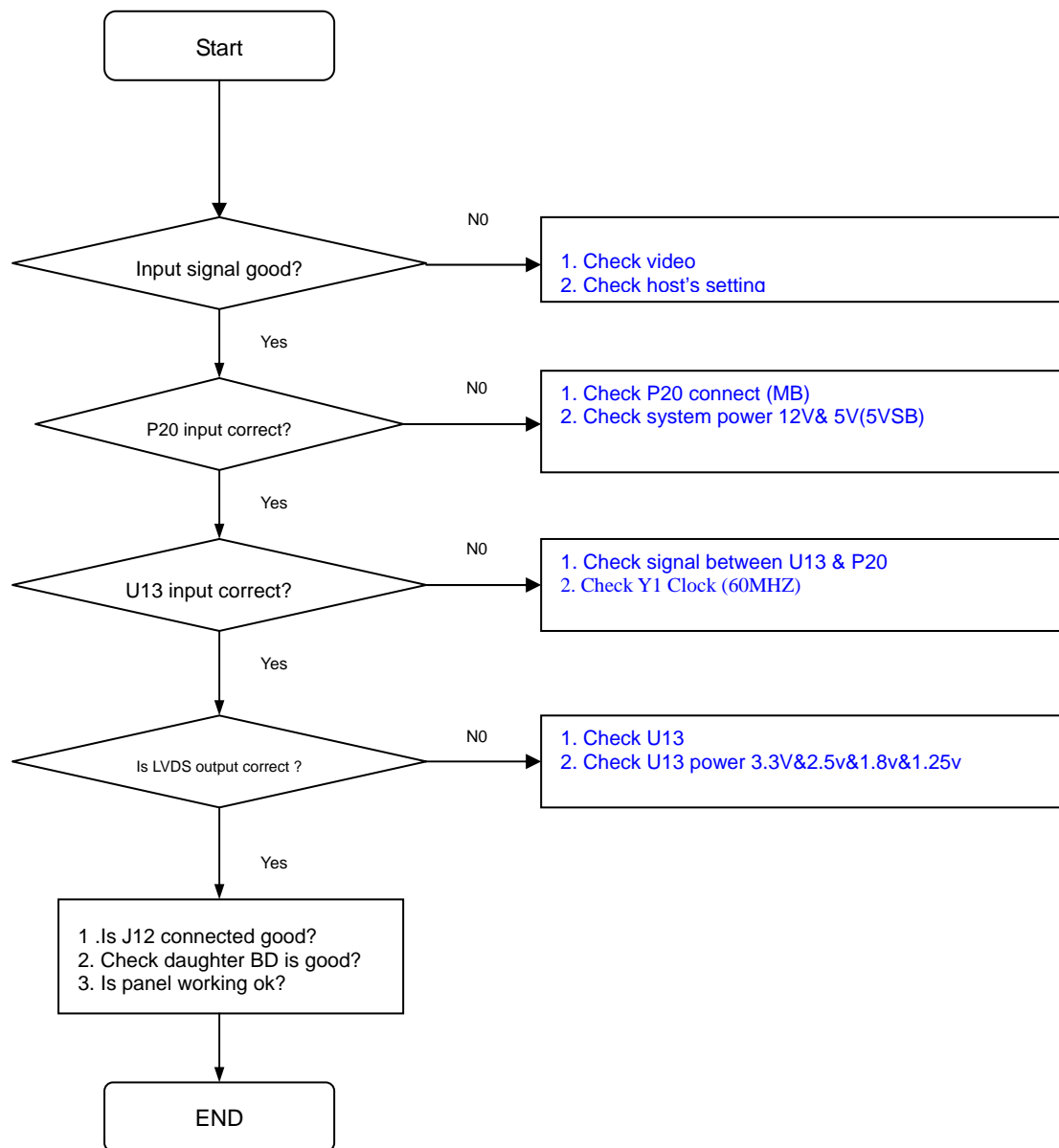
(TV, AV VIDEO1,2, S-VIDEO) IS NOT DISPLAY CORRECTLY



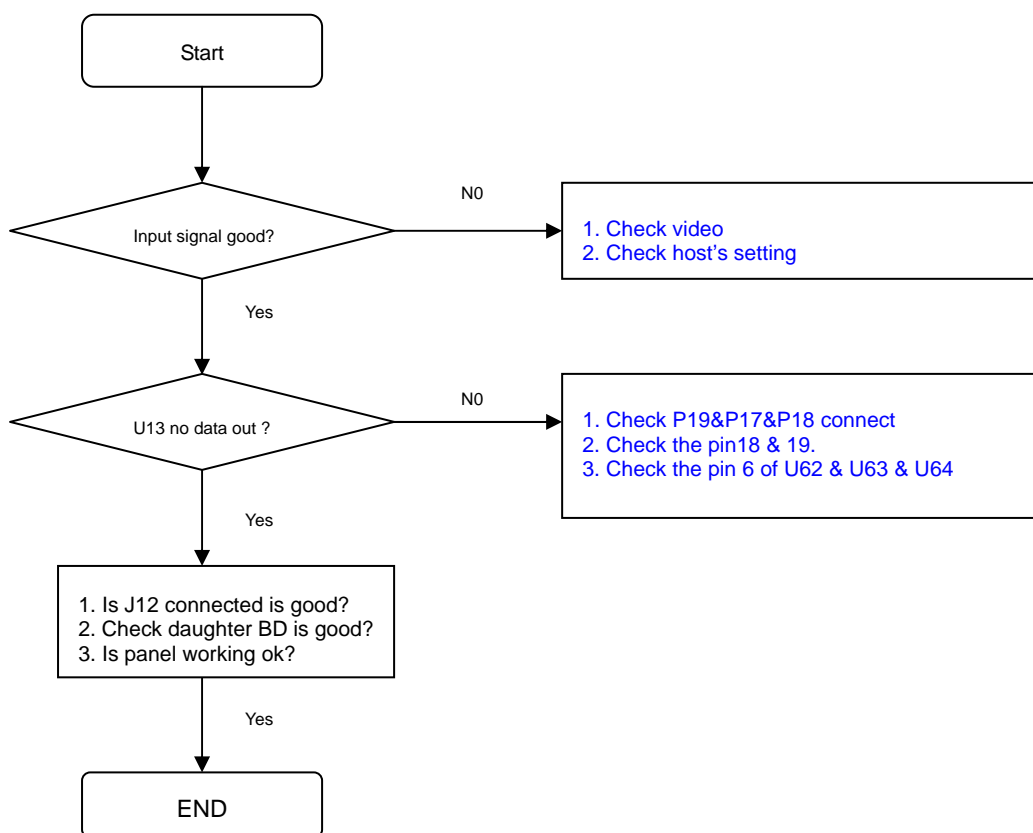
(COMPONENT1) IS NOT DISPLAY CORRECTLY



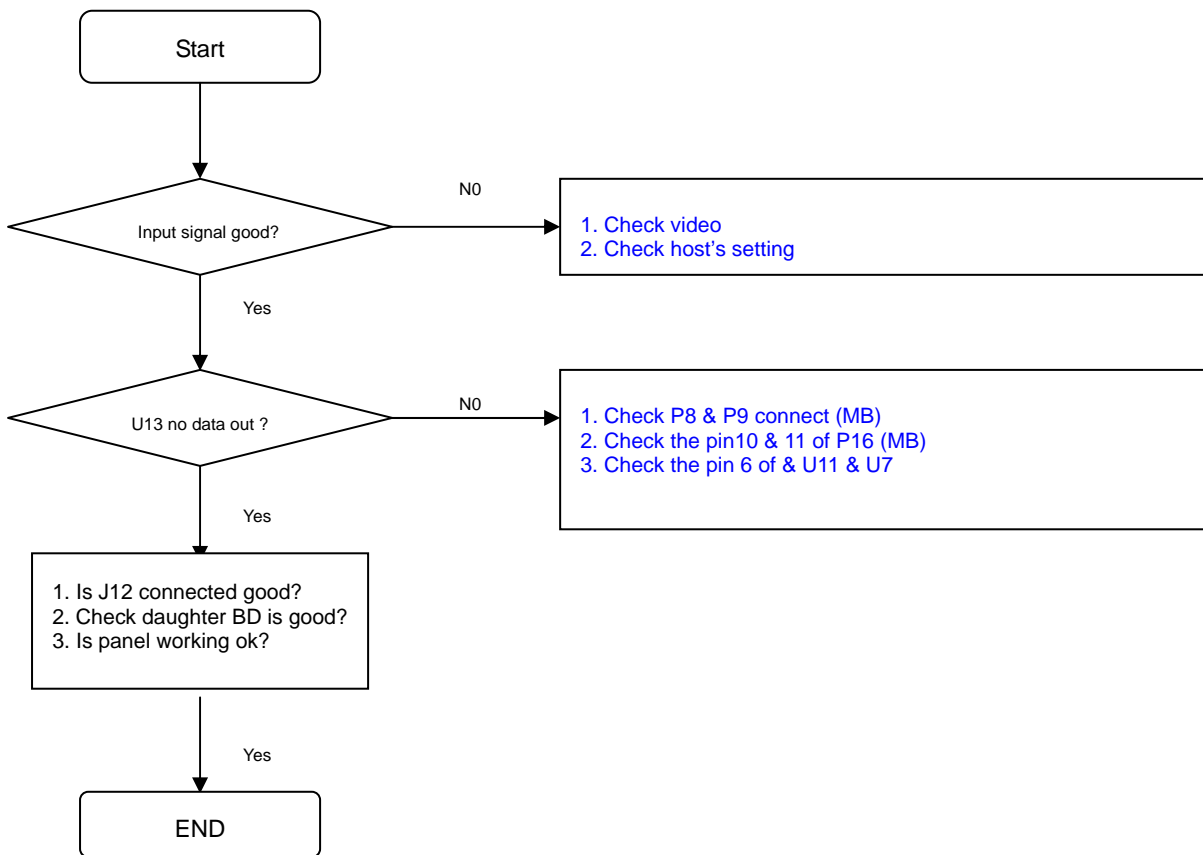
(COMPONENT2 & VEDIO 2) IS NOT DISPLAY CORRECTLY



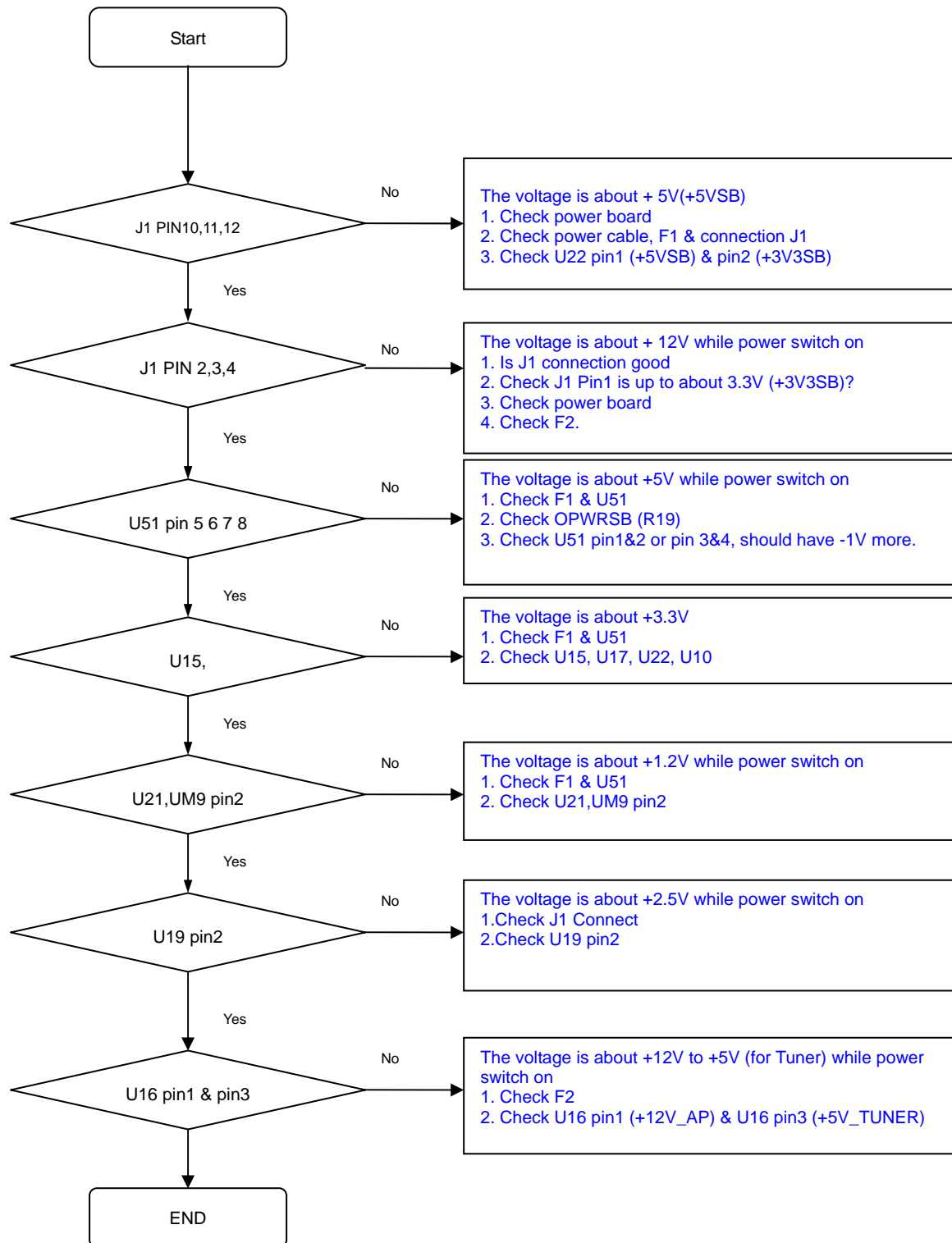
(HDMI 2,3,1)IS NOT DISPLAY CORRECTLY



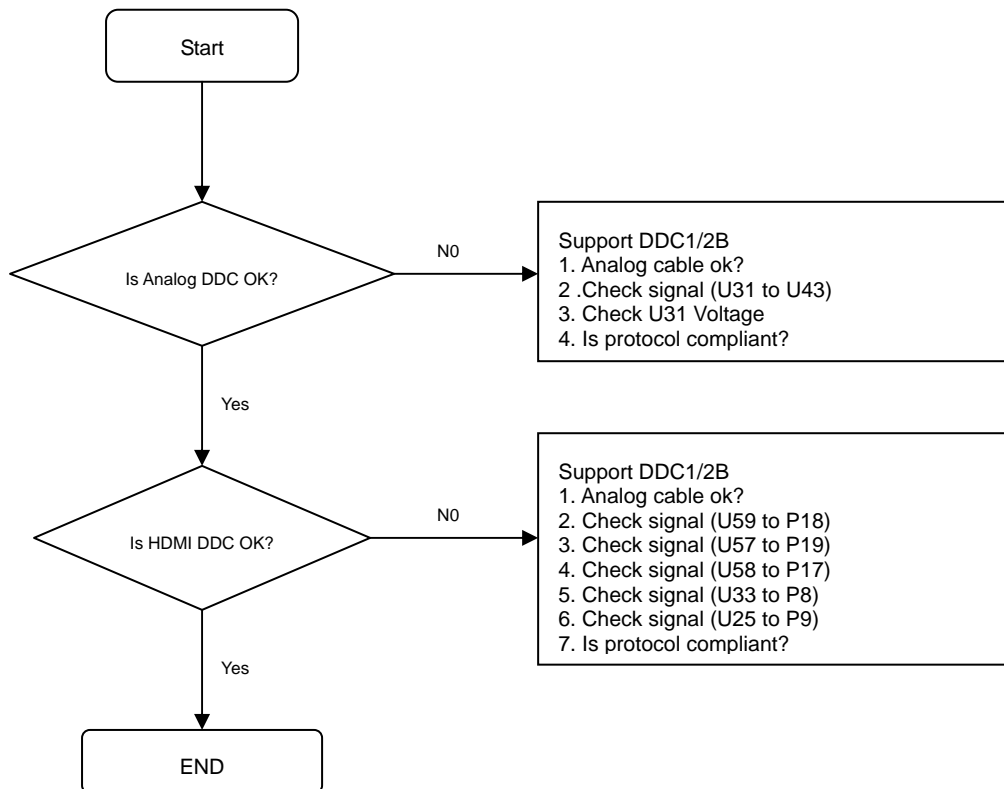
(HDMI 4, 5) IS NOT DISPLAY CORRECTLY



TROUBLE OF DC-DC CONVERTER



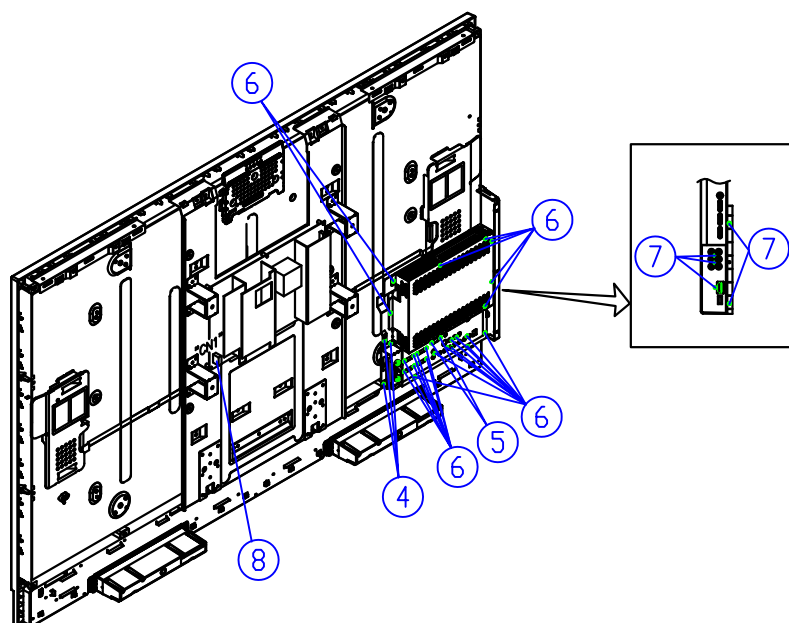
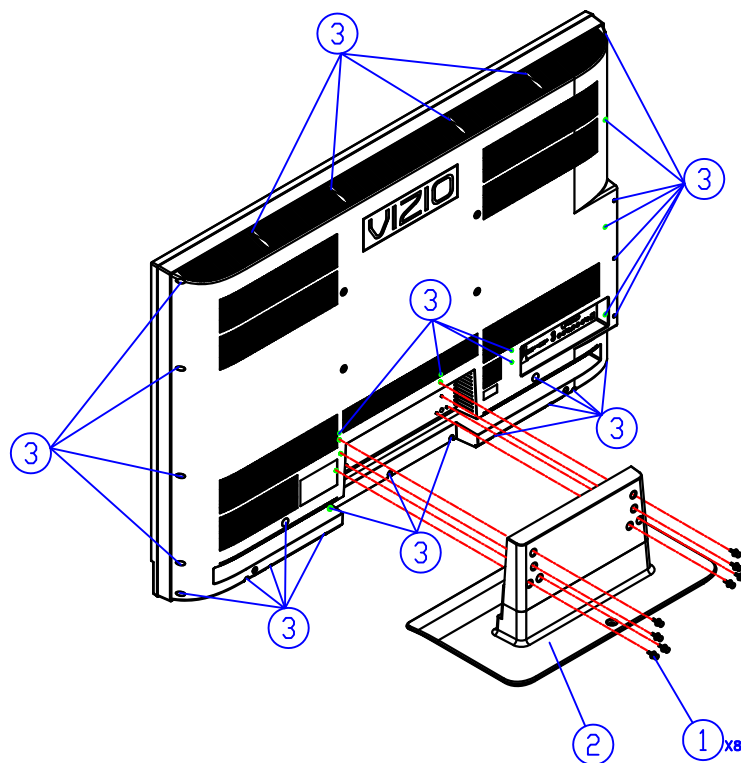
TROUBLE OF EDID READING



1. REAR COVER ASS'Y REMOVAL

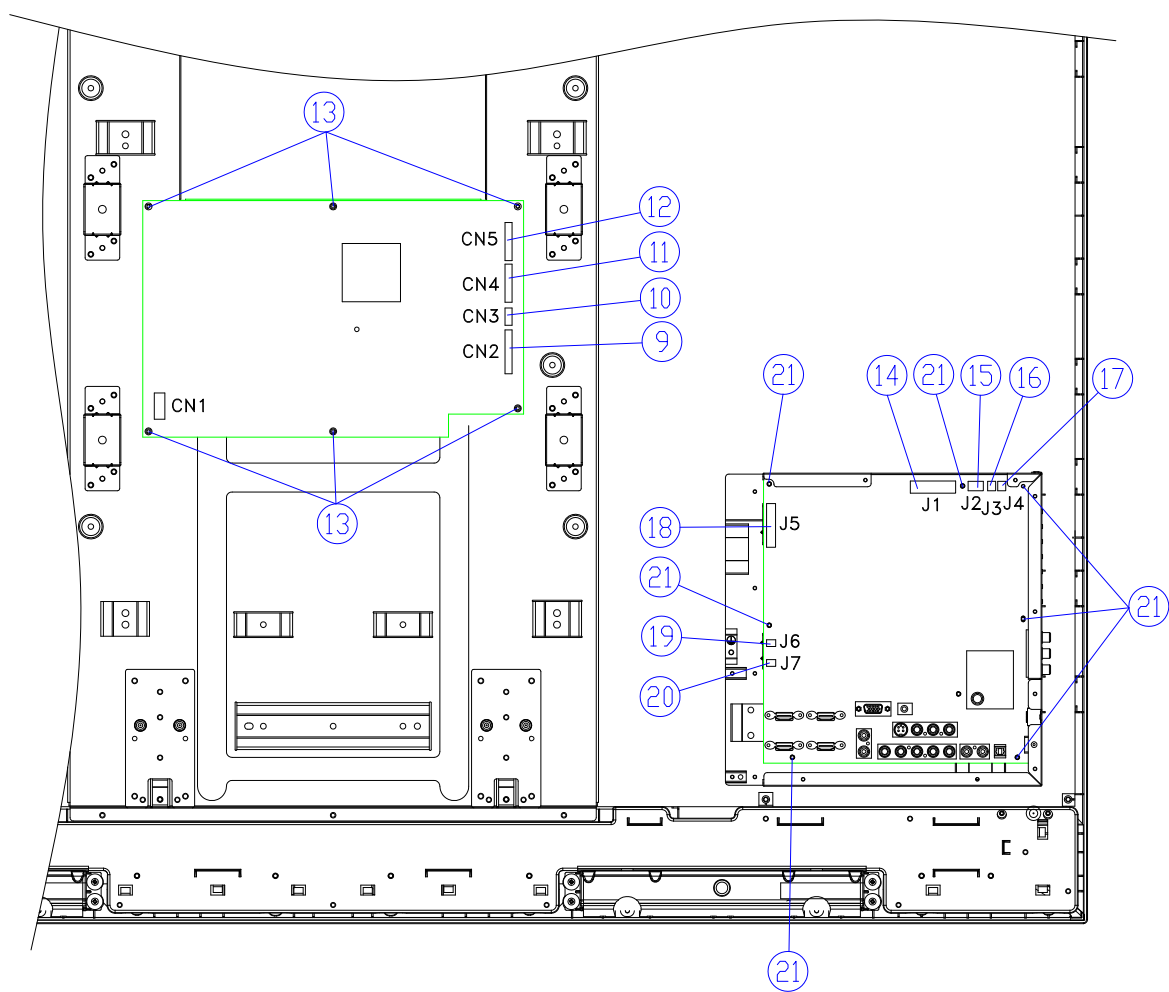
Note: Spread a mat underneath to avoid damaging the LCD Monitor surface.

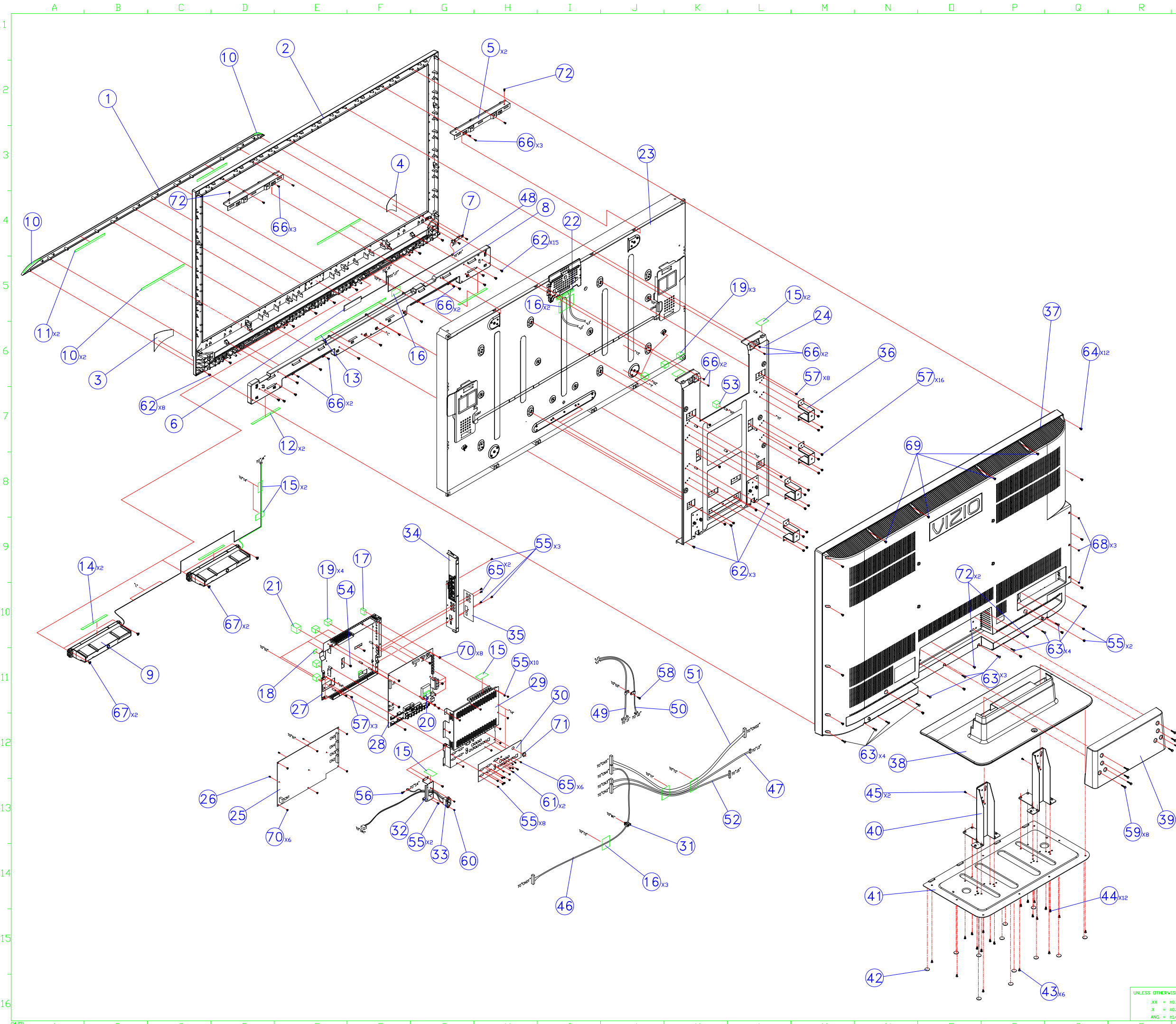
- 1) Remove eight screws ① from Base Ass'y ②.
- 2) Separate the Base Ass'y ②.
- 3) Remove thirty-two screws ③.
- 4) Separate the rear cover.
- 5) Remove three screws ④ from AC Holder.
- 6) Remove the connector ⑧ (CN1) of the AC_inlet cable.
- 7) Separate the AC_inlet cable.
- 8) Remove twenty-four screws ⑥ and two hexagon screws ⑤.
- 9) Remove five screws ⑦.
- 10) Separate the side cover Ass'y.



2. MAIN BD ASS'Y /VPOWER BD ASS'YREMOVAL

- 1) Remove the connector ⑨ (CN2) of the Main cable 1.
- 2) Remove the connector ⑩ (CN3) of the Main cable 2.
- 3) Remove the connector ⑪ (CN4) ⑫ (CN5) of the Inverter cable.
- 4) Remove six screws ⑬ from Power BD Ass'y.
- 5) Separate the Power BD Ass'y.
- 6) Remove the connector ⑭ (J1) ⑮ (J2) of the LVDS cable.
- 7) Remove the connector ⑯ (J5) ⑰ (J3) of the Main cable.
- 8) Remove the connector ⑱ (J4) of the Speaker cable.
- 9) Remove the connector ⑲ (J6) of the LED cable.
- 10) Remove the connector ⑳ (J7) of the IR cable.
- 11) Remove seven screws ㉑.
- 12) Separate the Main BD Ass'y.





ITEM	DESCRIPTION	QTY
1	SPEAKER_COVER(ABS,94-HB/SD-0150_(VF550XVT1A)	1
2	FRONT_BEZEL(Technology) ASS'Y(ABS,94-HB/SD-0150)	1
3	AL_DEC0_R(VF550XVT1A)(AL=0.5mm)	1
4	AL_DEC0_L(VF550XVT1A)(AL=0.5mm)	1
5	TOP_BKT(VF550XVT1A)(SECC=0.8mm)	2
6	LED BACKLIGHT 25*90*3 650nm LP1063-S562(Blk F)LF	1
7	IR BD ASS'Y (SV42)	2
8	PC HOLDER (VF550XVT1A)	1
9	SPK BDX 15W 8ohm W/CORE 2C_355*75/4C_620mm LF	1
10	CR SHEET (L230*W8*1.0T)(VF550XVT1A)	4
11	CR SHEET(L70*W8*1.0T)(VF550XVT1A)	2
12	CR SHEET(L150*W8*1.0T)(VF550XVT1A)	2
13	CR SHEET(L380*W8*1.0T)(VF550XVT1A)	1
14	CR SHEET(L135*W8*1.5T)(VF550XVT1A)	2
15	SHIELDING AL. TAPE (45.0*25.0)	6
16	SHIELDING AL. TAPE (50.0*40.0)	6
17	GASKET BLOCK (20.0*10.0*10.0)	1
18	Cushion For MB Chassis(15*15*2.0,hr=60)(VF550XVT1A)	2
19	GASKET BLOCK (17*21*20mm) (773GT)	7
20	GASKET BLOCK (5.5H*10.0W*30.0Lmm)	1
21	GASKET BLOCK (30.0L*25.0W*25.0H)	1
22	RUBBER(90*7*4.8T)(SV42)	1
23	LCD MODULE 55.0" TFT LC550WUD-SBA1 (LGD_Korea)	1
24	PANEL_SUPPORT_BKT(VF550XVT1A)(SECC=1.0mm)	1
25	POWER BD ASS'Y DPS-433BP-2A LF	1
26	SPACE SUPPORT (MCH-12,12.7 mm)(VF550XVT1A)	3
27	CHASSIS(VF550XVT1A) (SECC=0.8mm)	1
28	MAIN BD ASS'Y (VF550XVT1A)(HDCP)	1
29	SHIELD(VF550XVT1A) (SECC=0.8mm)	1
30	REAR PLATE VIZIO VF550XVT1A	1
31	WIRE SADDLE (CH-14)	1
32	AC HOLDER(VF550XVT1A)(SECC=0.8mm)	1
33	AC INLET 0707-1-CP+VHR5P 1617/1015 770/115mm+CORE	1
34	SIDE_COVER ASS'Y(ABS,94-5V/VH-0815)_(VF550XVT1A)	1
35	SIDE JACK PLATE VIZIO VF550XVT1A	1
36	VESA_SUPPORT(VF550XVT1A)(SECC=1mm)	4
37	REAR_COVER(ABS,94-HB/SD-0150)(VF550XVT1A)	1
38	BASE_CAB(ABS,94-HB/SD-0150)(VF550XVT1A)	1
39	NECK_COVER(ABS,94-HB/SD-0150)_(VF550XVT1A)	1
40	NECK_BRACKET(VF550XVT1A)(SGHC=2.0mm)	2
41	BASE_BRACKET(VF550XVT1A)(SGHC=2.0mm)	1
42	BASE FOOT (φ18.0*2.0t, PORDN)	12
43	TAP.SCREW-TR #4.0*8.0L,Ni	9
44	MAC. SCREW-MB M4.0*8.0L,Ni	12
45	TAP.SCREW-TB #4.0*12.0L,Ni	2
46	WH A2001-14/A2543-13 1007#26 1000mm	1
47	WH A2501-5/A2543-4 1007#26 600mm	1
48	WH A1251-4/A1251-4 1571#28 540mm	1
49	WH PKS24020PS1/PD240320 20276 730mm+CLAMP rev1	1
50	WH F1-RE41HL/PD240315 20276#30 730mm+CLAMP rev1	1
51	WH A2543-13/A2001-12 1007#26 550mm	1
52	WH A2543-15/A2001-15 1007#26 400mm	1
53	GASKET BLOCK (10.0W* 20.0L*17.0H)(HP Dbl Wan-24)	1
54	MAC. SCREW-MB M3*4.0L, BLK-Ni	1
55	MAC. SCREW-MB M3.0*6.0L,BLK-Ni	25
56	MAC. SCREW-MPGW M4.0*8.0L,Ni	1
57	MAC. SCREW-MPSWF M4.0*6.0L,BLK-Ni	27
58	MAC. SCREW-MPSWF M4.0*8.0L,Ni	1
59	MAC.SCREW-MPSWF M4.0*14.0L Blk-Ni	8
60	MAC. SCREW-MF M3.0*6.0L,BLK-Ni	2
61	MAC. SCREW-MHSW #4-40*8.0L,Ni	2
62	TAP.SCREW-TB #4.0*12.0L,Ni	25
63	TAP. SCREW-TP #4.0*16.0L, BLK-Ni	11
64	TAP. SCREW-TB #4.0*30.0L, BLK-Ni	12
65	TAP. SCREW-TP #3.0*8.0L, BLK-Ni	10
66	SCREW BTCW M3.0*8.0L Ni	14
67	TAP. SCREW-TRF #3.0*8.0L,Ni	4
68	TAP. SCREW-TI M3.0*10.0L, BLK-Ni	3
69	MAC SCREW-MB M4.0*8.0L,BLK_Ni(NYL0K)	4
70	SCREW PHW M3-0.5*6.1 W=7.8 NYL0K	14
71	NUT 3/8 "-32(W12.5*2.0t,Ni)(FDR TUNER)	1
72	MAC. SCREW-MB M4.0*8.0L,Ni	4

UNLESS OTHERWISE NOTED
XX = ±0.10
X = ±0.2
ANG. = ±1/2°

AMTRAN
TECHNOLOGY Co., LTD.

DSN: Jessie Yu 12/03/08

CHK:

THIRD ANGLE PROJECTION

QTY: 1 SIZE: A1

SCALE: Pull UNIT: MM

9655-8500-1053

PART NO.

MODEL No: VIZIO VF550XVT1A-LPL(WUD)

DWG. NAME: 55" CASE ASS'Y

DWG. No: VIZIO-VF550XVT1A-LPL(WUD)_CA.DWG REV. 0

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